

# Comparisons of Job Characteristics

**Focus Occupation:** Environmental Scientists and Specialists, Including Health (19-2041)

**Associated Occupation:** Microbiologists (19-1022)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

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<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

## Knowledge

Similarity of Focus Occupation to Associated Occupation: 68

**Focus Occupation:** Environmental Scientists and Specialists, Including Health (19-2041)

**Associated Occupation:** Microbiologists (19-1022)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Biology	3.7	24.1	14.8	<< Extensive education and/or training may be required
English Language	11.2	16.6	16.0	0 Current knowledge level may be sufficient
Chemistry	4.8	15.2	14.9	0 Current knowledge level may be sufficient
Medicine and Dentistry	3.7	10.7	2.4	<< Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Skills

Similarity of Focus Occupation to Associated Occupation: 96

**Focus Occupation:** Environmental Scientists and Specialists, Including Health (19-2041)

**Associated Occupation:** Microbiologists (19-1022)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Science	4.5	17.0	15.7	0 Current skill level may be sufficient
Reading Comprehension	10.7	15.5	16.1	0 Current skill level may be sufficient
Critical Thinking	10.8	15.0	14.1	0 Current skill level may be sufficient
Writing	9.2	14.8	14.4	0 Current skill level may be sufficient
Active Learning	8.7	14.7	13.0	< A higher skill level may be required
Learning Strategies	7.2	12.2	11.7	0 Current skill level may be sufficient
Mathematics	6.2	11.0	12.2	> Skill level is likely sufficient
Management of Personnel Resources	6.9	10.6	9.1	< A higher skill level may be required
Systems Analysis	6.5	10.6	10.6	0 Current skill level may be sufficient
Systems Evaluation	6.4	9.9	9.8	0 Current skill level may be sufficient

Operations Analysis	5.0	8.8	9.3	0	Current skill level may be sufficient
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The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 95			
Focus Occupation: Environmental Scientists and Specialists, Including Health (19-2041) Associated Occupation: Microbiologists (19-1022)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Inductive Reasoning	10.2	18.0	16.5	0	Current ability level may be sufficient
Written Comprehension	11.0	16.5	16.3	0	Current ability level may be sufficient
Problem Sensitivity	11.1	16.1	15.8	0	Current ability level may be sufficient
Category Flexibility	9.0	16.0	13.0	<	Some improvement in abilities may be required
Deductive Reasoning	10.6	15.7	15.1	0	Current ability level may be sufficient
Written Expression	9.8	15.5	14.4	0	Current ability level may be sufficient
Near Vision	11.1	15.0	12.3	<	Some improvement in abilities may be required
Information Ordering	9.9	13.9	12.9	0	Current ability level may be sufficient
Flexibility of Closure	7.8	13.6	11.6	<	Some improvement in abilities may be required
Fluency of Ideas	7.6	12.8	11.5	<	Some improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 88
Focus Occupation: Environmental Scientists and Specialists, Including Health (19-2041) Associated Occupation: Microbiologists (19-1022)		
Work Activities	Exclusivity of Activity	
Adhere to safety procedures	12	
Advise clients or customers	19	
Advise governmental or industrial personnel	28	
Analyze biological research, test, or analysis data	70	
Analyze ecosystem data	69	
Analyze scientific research data or investigative findings	27	
Classify plants, animals, or other natural phenomena	69	
Collect scientific or technical data	30	
Collect statistical data	47	
Communicate technical information	4	
Conduct analyses or tests of organic compounds	71	

Conduct field research or investigative studies	52
Conduct laboratory research or experiments	57
Conduct standardized qualitative laboratory analyses	62
Conduct standardized quantitative laboratory analyses	62
Confer with engineering, technical or manufacturing personnel	25
Confer with research personnel	50
Confer with scientists	54
Develop new products based on scientific research results	71
Develop or maintain databases	30
Develop plans for programs or projects	31
Develop policies, procedures, methods, or standards	21
Develop scientific or mathematical hypotheses, theories, or laws	62
Develop tables depicting data	33
Direct and coordinate activities of workers or staff	3
Direct and coordinate scientific research or investigative studies	27
Direct implementation of new procedures, policies, or programs	60
Examine biological or other material specimens under microscope	73
Explain complex mathematical information	30
Follow infectious materials procedures	52
Follow microbiology procedures	74
Follow safe waste disposal procedures	50
Make decisions	24
Make presentations	13
Plan scientific research or investigative studies	48
Prepare reports	8
Prepare sample for laboratory testing, analysis, or microscopy	74
Prepare technical reports or related documentation	22
Record test results, test procedures, or inspection data	48
Resolve engineering or science problems	46
Use biological research techniques	68
Use biological testing instruments	73
Use chemical testing or analysis procedures	54
Use computers to enter, access or retrieve data	3
Use hazardous materials information	35
Use health or sanitation standards	62
Use knowledge of investigation techniques	16
Use laboratory equipment	60
Use library or online Internet research techniques	21
Use mathematical or statistical methods to identify or analyze problems	30
Use microscope	71
Use pollution control techniques	62
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17
Write scholarly or technical research papers	36

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Tools and Technologies that Both Occupations Have in Common

Similarity of Focus  
Occupation to Associated  
Occupation: 50

**Focus Occupation: Environmental Scientists and Specialists, Including Health (19-2041)**  
**Associated Occupation: Microbiologists (19-1022)**

Tools and Technologies	Exclusivity
Cameras	2
Chemical evaluation instruments and supplies	10
Chromatographic measuring instruments and accessories	16
Computer printers	2
Computers	1
Content authoring and editing software	1
Data management and query software	1
Electrical measuring and testing equipment	7
Electrochemical measuring instruments and accessories	9
Gas analyzers and monitors	10
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Light and wave generating and measuring equipment	4
Network applications software	1
Sampling equipment	12
Spectroscopic equipment	10

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.